

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/GB2004/003382

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC 7 B22D19/14 B22D17/20 B22D17/22 B22D19/00		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) IPC 7 B22D		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, PAJ, WPI Data		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 0092, no. 52 (M-420), 9 October 1985 (1985-10-09) & JP 60 102257 A (HONDA GIKEN KOGYO KK), 6 June 1985 (1985-06-06) abstract	1-4
X	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 07, 31 July 1997 (1997-07-31) & JP 09 076052 A (UBE IND LTD), 25 March 1997 (1997-03-25) abstract	1-4
-/--		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family		
Date of the actual completion of the international search  22 March 2005		Date of mailing of the international search report  15. 07. 05
Name and mailing address of the ISA European Patent Office, P.B. 5918 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3015		Authorized officer  Bergman, L

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 0071, no. 93 (M-238), 24 August 1983 (1983-08-24) & JP 58 093557 A (TOYOTA JIDOSHA KOGYO KK), 3 June 1983 (1983-06-03) abstract	1-4
A	----- GB 2 115 327 A (SECR DEFENCE) 7 September 1983 (1983-09-07) cited in the application the whole document	1
X	----- PATENT ABSTRACTS OF JAPAN vol. 009, no. 316 (M-438), 12 December 1985 (1985-12-12) & JP 60 152353 A (HONDA GIKEN KOGYO KK), 10 August 1985 (1985-08-10) abstract	10
X	----- US 6 298 903 B1 (WYSER JOHANN ET AL) 9 October 2001 (2001-10-09) abstract; figure 1	10,11
X	----- DE 195 08 867 A1 (BU EHLER AG, UZWIL, CH) 7 December 1995 (1995-12-07) claim 1; figure 1	10-12
X	----- US 5 746 267 A (YUN ET AL) 5 May 1998 (1998-05-05) abstract; figure 1	10,11
A	----- BHAGAT R B: "HIGH PRESSURE INFILTRATION CASTING: MANUFACTURING NET SHAPE COMPOSITES WITH A UNIQUE INTERFACE" MATERIALS SCIENCE AND ENGINEERING A: STRUCTURAL MATERIALS: PROPERTIES, MICROSTRUCTURE & PROCESSING, LAUSANNE, CH, vol. A144, 1991, pages 243-251, XP009019163 ISSN: 0921-5093 the whole document	14,15
X	----- PATENT ABSTRACTS OF JAPAN vol. 018, no. 151 (M-1576), 14 March 1994 (1994-03-14) & JP 05 329610 A (MITSUBISHI MATERIALS CORP), 14 December 1993 (1993-12-14) abstract; figure 1	16
X	----- US 5 433 262 A (KAWAGUCHI ET AL) 18 July 1995 (1995-07-18) abstract; figures 1-3 ----- -/--	16

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
✓ A	<p>PATENT ABSTRACTS OF JAPAN vol. 1995, no. 02, 31 March 1995 (1995-03-31) &amp; JP 06 304736 A (LEOTEC:KK), 1 November 1994 (1994-11-01) abstract</p> <p>-----</p>	16-18

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## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☒ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-9

Pressure infiltration casting of a MMC including applying after pressure direct to the molten metal.

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2. claims: 10-13

A die casting machine including a mechanical compaction piston.

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3. claims: 14-18

A method of casting a component in a die comprising a heated first part having an opening placed in a second part also having an opening wherein the opening of the second part is registrable with the external opening of the first part when housed in the second part.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 60102257	A	06-06-1985	NONE
JP 09076052	A	25-03-1997	NONE
JP 58093557	A	03-06-1983	JP 1638052 C 31-01-1992 JP 3005905 B 28-01-1991
GB 2115327	A	07-09-1983	AT 22468 T 15-10-1986 AU 555685 B2 02-10-1986 AU 1227183 A 25-08-1983 CA 1202764 A1 08-04-1986 DE 3366357 D1 30-10-1986 EP 0100348 A1 15-02-1984 WO 8302782 A1 18-08-1983 JP 2034271 B 02-08-1990 JP 59500135 T 26-01-1984 NO 833495 A ,B, 28-09-1983 US 4573517 A 04-03-1986
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JP 06304736	A	01-11-1994	NONE